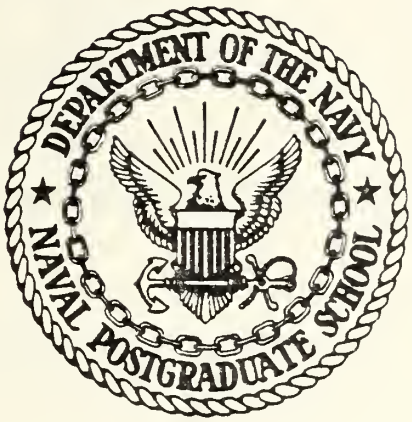
JOB-RELATED PERCEPTIONS OF NAVAL AVIATORS

Mary Dorothy Johnson

NAVAL POSTGRADUATE SCHOOL
Monterey, California



THESIS

JOB-RELATED PERCEPTIONS OF NAVAL AVIATORS

by

Mary Dorothy Johnson

September 1977

Thesis Advisors: R. A. McGonical
J. W. Creighton

Approved for public release; distribution unlimited.

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER
2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER

4. TITLE (and Subtitle)
Job-Related Perceptions of Naval Aviators

5. TYPE OF REPORT & PERIOD COVERED
Master's Thesis; September 1977

6. PERFORMING ORG. REPORT NUMBER

7. AUTHOR(s)
Mary Dorothy Johnson

8. CONTRACT OR GRANT NUMBER(s)

9. PERFORMING ORGANIZATION NAME AND ADDRESS
Naval Postgraduate School
Monterey, California 93940

10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS

11. CONTROLLING OFFICE NAME AND ADDRESS
Naval Postgraduate School
Monterey, California 93940

12. REPORT DATE
September 1977

13. NUMBER OF PAGES
39

14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)

15. SECURITY CLASS. (of this report)
Unclassified

15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)
Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Job-related perceptions of naval aviators are explored. Perceptions and attitudes which may be counterproductive to the needs of the Navy and to the well-being of the individual aviator are investigated using personal interviews. Emphasis

is placed on identifying differences within the naval aviation community. Recommendations to correct some of the problems are made.

Approved for public release; distribution unlimited

Job-Related Perceptions of Naval Aviators

by

Mary Dorothy Johnson
B.S., California State University-Long Beach, 1967

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
September 1977

ABSTRACT

Job-related perceptions of naval aviators are explored. Perceptions and attitudes which may be counterproductive to the needs of the Navy and to the well-being of the individual aviator are investigated using personal interviews. Emphasis is placed on identifying differences within the naval aviation community. Recommendations to correct some of the problems are made.

TABLE OF CONTENTS

I. INTRODUCTION

In the increasingly complex world of naval aviation, the interdependence of the participants and the necessity for teamwork greatly influence total system performance. The interdependence of human behavior has been a prevailing feature of Navy operations and effective coordination of the Navy team has been greatly desired [Hall and Rizzo 1975].

A. BACKGROUND

How the various members of the naval aviation community perceive themselves, their compatriots within the community, and those outside of it has been an area of concern to those who deal with naval aviators. Perception, as used here, is highlighted as a psychological rather than a physiological process. The job-related perceptions of naval aviators involve more than just the tasks of flying a particular type of aircraft. These perceptions extend into many aspects of both the aviators' professional and private lives [Ebbert 1970]. Some of these relationships involve aviators who fly the same type of aircraft, aviators that fly a different type of aircraft, aviators from different fleets (Atlantic or Pacific), non-aviation naval personnel, civilians (civil service and non-civil service), and families.

The implications of these perceptions are far reaching. The effect of the perceptions on behavior and in turn the effects due to the interdependence of behavior in team situations influence total system performance [Hall and Rizzo

1975]. If differences in perception exist and are job-related, then they will also have an effect on the aviator as he advances in his career. An example is the aviator who is ordered to a program manager's billet. His perceptions will influence his evaluation of the tactics, requirements, contractor selection and evaluation, and even military worth of a given program.

1. History

Naval aviation traces its history back almost to the beginnings of aviation itself. On 14 November 1910, Eugene Ely, a civilian, made history by taking off from a makeshift flight deck constructed on the U.S.S. Birmingham. Nine weeks later, Ely made history again by landing on a specially constructed deck on the U.S.S. Pennsylvania. This deck was equipped with primitive arresting cables and Ely's plane had the prototype tailhook [Ray 1971a]. The honor of being the first U. S. Navy aviators went to three lieutenants: T. C. Ellyson, J. H. Towers, and John Rodgers [Ray 1971b]. Soon, the first naval aerodrome was established at Annapolis [Ray 1971c]. Naval aviation was still in its infancy when differences between aviators and aircraft began to arise. Curtis and the Wright brothers presaged the competition between McDonnell-Douglas and Grumman of today.

The folklore of differences among naval aviators has a long history dating back to the commissioning of the U.S.S. Langley in 1922. It was at that time that naval aviators divided themselves into patrol aviators and carrier

aviators. The carrier aviators' culture for the most part derived from the Fleet. The head gear of the carrier-based aviator of pre-World War II consisted of cloth cap and goggles. The land-based patrol aviator wore a billed baseball cap. In the late 40's and early 50's, the carrier-based aviator began to wear the now familiar flight helmet. In the Fleet, this began to be the symbol of a naval aviator. In the late 50's, the land-based patrol aviator went to the flight helmet. Advancing technology contributed to certain of these equipment changes and in the late 50's and early 60's, high performance jets required the carrier-based aviator to wear a G (for gravity) suit. This then became the new mark of distinction [Toole 1970]. In the 70's, a not so subtle battle of the bumperstickers, which equated sexual prowess with the type of aircraft an aviator associated, represented a highly visible if somewhat facetious symbol of the differences in the naval aviation community.

The experiences of members of various field activities working with naval aviators also indicated possible differences in perception. It was felt by some that these differences were detrimental to the mission of the Navy [Karney 1976, Roush 1977, Stephenson 1977].

B. OBJECTIVE

The objective of this thesis is to demonstrate that differences in job-related perceptions do exist within the naval aviation community. This thesis attempts to uncover

those perceptions and attitudes which may be counterproductive to the needs of the Navy in the increasingly complex and interdependent world of naval aviation. It also uncovers some problems which may be counterproductive to the well being of the naval aviators.

C. METHOD

The primary source of data which served as the basis for this effort was obtained through extensive personal interviews and observations conducted by the author.

The population of interest consisted of the active duty naval aviation community. This was defined to be those naval officers who were pilots and naval flight officers. Since this represented approximately half of the unrestricted line officers in the Navy, this could have been a formidable task. A very small sample of this population was selected for the purposes of interview and came principally from the students enrolled in the Aviation Safety Officer (ASO) courses at the Naval Postgraduate School (NPS). These courses bring designated naval aviators and naval flight officers of the Navy and Marine Corps of the rank of Lieutenant, USN, and Captain, USMC, and above together in a six-week program. This program prepares ASO's at the squadron level to assist commanding officers in conducting an aggressive accident prevention program as defined in OPNAVINST's 3750.14 and 5100.8 [NPS 1977].

In addition to the ASO students, interviews were conducted with aviators assigned to the Pacific Missile Test

Center, NAS Point Mugu, California and with officer-aviator students in other curricula at NPS.

This sample represented a cross-section of seasoned aviators. Approximately 25 personal interviews were conducted. Personnel interviewed included fighter, attack, land-based and carrier-based patrol, and helicopter pilots and flight officers. With the exception of one Lieutenant (jg), the interviewees were Lieutenants, Lieutenant Commanders, and Commanders. The average age was 31.8 years and the average length of service was 9.8 years. While the sample size was small, it was characteristic of the population of aviators in the ASO program and was not the result of bias on the part of the author.

All interviews were conducted by the author and began with a general explanation of the nature of the research. Each interview followed a general scheme of establishing rapport with the interviewee and then exploring his opinions and perceptions of various relationships he encountered in his experience as a naval aviator.

The general format of the interview involved obtaining demographic data such as age, rank, years in the Navy, and marital status. Previous assignments and the route to aviator status along with educational experience were then discussed. The interviewee was encouraged to discuss his experiences with other aviators, his perceptions of East Coast and West Coast duty, and his perceptions of aviators who flew aircraft different than his. His experience with

civilians and his family's reaction to his career were also discussed along with his feelings for the direction his career was heading. An opportunity to discuss any particular area of interest, or to make any general comments was also provided.

The author also reviewed the notes made during two working sessions with Carrier Air Wing 14 in October and November 1973. These two sessions were held at NAS Miramar and were of 3 days and 2 days duration respectively. It was during this period that Fighter Squadron 1 (VF 1) under then Commander Rene Leeds was active in leading the development of the Fleet Air Superiority Integrated Tactics concept (FASTAC). These working sessions had as participants at least two representatives from each squadron in the wing. Fighter, attack, anti-submarine warfare, electronic warfare and search and rescue pilots and flight officers were all represented. The sessions were designed to hammer out an integrated approach to handling various tactical situations. The atmosphere was such that the general relationships of the aviators and their perceptions of the various missions quickly became apparent. Besides the technical data concerning the sessions, the author's notes contained references to the apparent relationships between the participants and these notes provided the author an excellent background for interpretation of the interviews.

The author also informally interviewed and observed five of the aviators' wives for further data concerning

family relationships. This was possible due to the author's residence in La Mesa Village Navy housing.

While the field study technique (observation and interview) allows for a broader look at a situation and has the advantage of realism and a richness unobtainable in a laboratory situation, it is fraught with its own problems [Kerlinger 1973]. Myron Glazer describes the field method as an adventure and discusses the problems of the field approach. These include gaining acceptance, learning the area to be investigated, handling resistance encountered, and the matter of reciprocity. Arlene Kaplan Daniels, a sociologist and woman who studied Army life, experienced difficulty in gaining acceptance as a woman professional seeking access to a "closed system commanded by men" [Glazer 1968]. As a civilan member of Naval Air Systems Command test and evaluation activity for 10 years, the author did not encounter difficulty in gaining acceptance and did not encounter resistance in either interviewing or observing naval aviators. The only real problem area involved reassuring the interviewees that their anonymity would be preserved.

II. PERCEPTIONS

A. GENERAL

Based upon the interviews and observations there are, within the naval aviation community, certain perceptions which are common to every type of aviator. That is to say there were no detected differences with respect to certain topics that were considered. These included the aviators' perceptions of civilians, morale in the Navy and family relationships.

1. Civilians

Most aviators, until they have a tour with the shore establishment, have little contact with civilians other than field or technical representatives or support personnel. Comments were generally negative. Most frequently heard was the complaint that the civilians worked an eight-hour day and left at quitting time while the military stayed until the job was done. Two of the interviewees expressed the consensus of the group concerning support and lower level civilian personnel. One said: "My girlfriend's dad is in civil service, but he's a nice guy anyway." The other said: "I'm not really keen on civil service types, but my wife works for civil service so I guess they're okay."

Those aviators who have had experience with higher level civilians at field activities or in headquarters command rate the civilians a little higher, but not much. One pilot summed up the comments of those with such experience

when he said: "The RDT&E engineering people seem to ignore the environment in which the operational Navy must maneuver--they are too concerned with money problems and not nearly as concerned with the pilot who has to use what they have designed." This apparent disregard for the operational environment is not just limited to the civilian side of the house however. This pilot went on to say: "The military at the system command level and at the field activities are not immune to this either. There is some hope for those aviators assigned to one of the experimental squadrons like VX-5 since they will be getting back into operational squadrons. Once an aviator is out of the saddle for a while, he forgets what it is like out there in the real world."

Some of the dislike for civilians was based on the fact that civilians worked under different rules than the military. Several of the interviewees commented that their perception of civilians was based on the negative reaction of the enlisted personnel. These officers reported that the "easy life and good pay" for the civilians working side-by-side with the enlisted caused some problems with the enlisted personnel's morale.

2. Morale

About half of the sample interviewed mentioned problems with low morale. The reasons varied from that given by a P-3 pilot who said: "Morale is low at my base. This is due to poor conditions. We have hangars that are ready to fall apart and there are no heated spaces for the men in

the winter. The reserve units get all of the new buildings and equipment while the regular Navy must make do."

Another pilot voiced two other thoughts that were typical of the comments made by others. His first was: "When the business of the day was the war, everyone was on your side and promotions came fast. When it isn't, they aren't and they don't." His second was: "The closer you get to Washington, D.C., the less concern there is about goals orientation and the effective use of people and the more concern about following the regulations to the letter." These two concerns were most often expressed by fighter and attack pilots and were evenly distributed between East Coast and West Coast squadrons.

3. Families

Slightly more than a third of the sample interviewed were divorced or separated. There were some differences in percentages with respect to location but the reasons given for the family break-up were consistent across the sample. In most cases, the aviators said their wives divorced them because the wives disliked the long periods of separation while the aviator was on a cruise. Jean A. Ebbert makes a point that the aviators didn't mention but that aviators' wives mentioned frequently. She said: "No naval aviator, lest he commit bigamy, can take a mere woman to wife....At all times, and in all places, he loves and cares for us, and from time to time, he even resides with us. Nevertheless, he is married to naval aviation." [Ebbert 1970, 1974]

Of the remaining aviators who were married, slightly less than half of these were experiencing difficulties within their families. Based upon the comments of the aviators, the majority of the difficulties revolved around the career direction they and their wives wished to pursue. Several expressed their love of flying but also their desire to see more of their families. They wanted a chance to get to know their children. Only two of the interviewees mentioned difficulty with their wife's career. Most expressed the idea that their career decisions should come first.

Many of the interviewees expressed the view that they were at the point in their careers where they had to make some sort of decision about the future. One pilot summed it up when he said: "Sometimes I think that now that I am an aviator and am moving along my career path the way I figured I'd have to to make Captain,...do I really want to make the Navy my career? That's a hell of a note, don't you think?"

Gail Sheehy in Passages refers to this as the Catch-30 passage. It is during this passage she notes that "important new choices must be made and commitments altered or deepened." The aviator's wife also finds herself in a state of flux. It is not too surprising to find so many of the aviators that were interviewed in this state of development. The wives who voiced the most dissatisfaction with the situation were those that had no outside interests other than their husband's career and related activities such as the

Wives' Club or the Navy Relief Society. What is perhaps positive is the desire expressed by the majority of the aviators involved in these difficulties to face these problems and work out solutions. The consensus was that ignoring the desire for time with the family may be disastrous farther along in the career. As one aviator said" "I've seen too many aviators put everything into flying and find out when they get back from a cruise that their family got along so well without them that they were no longer welcome. My wife was a Navy junior so she knew what she was getting into when we got married. That doesn't mean that she likes it or for that matter will continue to put up with the separations and the transient life."

One of the frequent complaints of the wives concerned the transient nature of the military life. "Just about the time the family got to know an area, my husband got orders to move somewhere else to get his ticket punched," was the way one woman described her situation.

B. AIRCRAFT RELATED

The observation that there are differences in perceptions between aviators that fly different aircraft is not new. That these differences should be recognized is. The fact that an aviator could just as easily have been assigned to patrol aircraft as to fighters makes the differences downstream all the more interesting. The assignment of an aviator to a particular aircraft type is more a matter of pure luck than performance. This is due to a small data base and

a short term outlook at the end of the primary flight training phase of Naval Air Training [Wright 1970, Culbertson 1970, Speer and Kusewitt 1972].

As noted earlier, this thesis does not attempt to delve too deeply into the causes for the differences in perception, but conformity to the group appears to be high on the list. The consensus of the aviators interviewed indicated that if a man did not like the assignment and the aircraft, he got out at the first possible opportunity or changed his mind and became one of the group.

1. Fighter

"Fighter pilots are some of the finest people in the world, but like doctors, they must be reminded once in a while, they cannot walk on water." [Wood 1976]

"(Some say) that old fighter-pilot strut, the Errol Flynn flying with the Dawn Patrol swagger, is obsolete, out of touch with today's cybernetic aviation." [Ebbert 1970]

"The reports of wild activities of fighter pilots are based on the antics of the ensigns and jg's." [Toole 1970]

All of the above are perceptions of others about fighter pilots. Most of the fighter pilots interviewed disagreed with all three of the statements. They seem to like to think they can walk on water, swagger with the best of them, and party until dawn. One of the more outspoken interviewees summed up quite well the attitude of every fighter pilot interviewed when he said: "Fighter pilots

are the only real aviators in the Navy. Attack 'pukes' are strictly second class, sort of like the Air Force and P-3 types are just a bunch of bus drivers."

Another fighter pilot expressed a slightly different view. He acknowledged that fighter pilots are the "Navy's real aviators." His concern was with the impact of new weapon systems on the role of the fighter pilot. "As long as the weapons can be viewed as extensions of the plane, the pilots will use them. As long as they (the weapons) don't cut into my aircraft's performance, I'll be happy. The successful dogfight is still the ultimate desire of every fighter pilot," was the way he expressed himself.

The fighter aviators interviewed averaged almost 33 years of age and 11 years of service, and were senior lieutenants and lieutenant commanders. The only two naval flight officers (NFO) interviewed were fighter aviators. They both were encouraged by the changes in regulations which gave the NFO a chance to advance to command [Finneran 1974, Smith 1970]. Both were consistent with the fighter pilots in their general perceptions.

Generally, the fighter aviator found no fault with the selection system in operation at the end of primary flight training. Further, as a group they could see no reason for concern about the problems of, or their interaction with, the other members of the naval aviation community. This was also the case during the FASTAC working sessions. The fighter pilots were the hardest to convince

that there possibly was a better way to solve a given tactical problem than sending the fighters after the threats, e.g., the employment of other weapon systems.

The concern expressed about new weapons was perhaps justified. The lone E-2C/D pilot interviewed made the comment: "Fighter pilots in today's environment are anachronous. Not only can an E-2 vector the fighters to their targets, but through the combat computer systems could also launch their weapons for them. Without the eyes and ears provided by the E-2's, the fighter jockeys would have a hard time finding the target much less engaging it."

The fighter pilot, in his own eyes, is still the pinnacle of naval aviation. He can "walk on water" and knows too that his airplane will steal the show at any airshow, especially if it is an F-14. It is no accident that the nickname for the F-14 is the "Tomcat" and its slogan is "Anytime, Baby"!

2. Attack

The average age of the attack aviator in the sample was 31 years and the average length of service was just under 9 years. As a group, the attack aviators were less outspoken than the fighter community. Several of the attack aviators had had a choice between attack and fighter. One reason given for choosing attack was expressed this way: "The war had reached the point where the fighter pilots were engaged in tedious BARCAP (barrier close-in air patrol) operations. Attack pilots were prosecuting the war in the enemy's

territory and were seeing a lot of action." Others indicated they felt that "the fighter pilots' image was overblown" and that they were interested more in the mission of the attack community.

There is a feeling expressed by about half of the sample that fighter pilots get more than their share of the promotions. While this may have been true in the past, this is changing. The problem with most changes is that the results take a while to become visible [Burgess 1971].

The attack community expressed more of an interest in graduate education than any of the other communities. This concern was best summed up by one pilot who said: "Graduate school and/or the War College is necessary if you want to get ahead, but it should be postponed until your flying days are numbered. PG (NPS) school early in the career is a kiss of death for advancement."

The interviewees as a group were more low-keyed in their answers and regarded their careers as something in which their families were involved. This was also reflected, in this group, by a much smaller percentage of divorces and separations. There was a willingness expressed by the husbands to let their wives develop their potential. This was substantiated to a certain extent by the two attack aviators' wives that were interviewed.

3. Patrol

The average age of the P-3 pilot interviewed was 34 years and the average length of service was a little over

12 years. The only "jg" interviewed came from this group; if his age and length of service were left out of the averages, the average age of the interview group would be 37 with an average length of service of 15 years.

Again, this group felt that too much emphasis was placed on the fighter as the cream of the crop. As one interviewee expressed himself: "Apptitude and attitude should be considered in the assignments of pilots to their first training. The Navy pays a heavy price in attrition of young pilots with its present system."

As a group, the P-3 community is concerned about the morale of its squadrons. The most common complaint was about the long hours of each mission. As one pilot described the situation: "Preflight check may take up to 4 hours before the flight. This has been due to poor maintenance. This is followed by up to a 10 hour flight for a crew of 12 and a 2 hour debrief. Pacific flights are longer, because there is more ocean to cover. The long flights and long hours lead to a lot of operator inattention and fatigue."

Poor facilities and complaints about the civilian support personnel were frequently heard. As one pilot said: "My men freeze their tails off in the winter and if we are trying to get ready for a flight and quitting time comes, the civilians go home whether the job is done or not. They won't work overtime and seem to have no dedication to their jobs."

The family lives of this group seemed to be the most stable of all of the groups interviewed. Because these aviators did not take long cruises they could be with their families on a more regular basis. The major complaint concerned the long hours, but the nature of the mission was such that the aviators and their families realized that there was little that could be done to change the situation.

4. Helicopter

The helicopter pilots were the youngest group interviewed with an average age of just under 29 years and an average length of service of 7 years. All were lieutenants. This group presented a very defensive posture. Every pilot that was interviewed from this group and the representatives to the FASTAC sessions were quick to inform any one who would listen that "they were helicopter pilots because they chose to be; they could have been fighter pilots if they had wanted to be."

There was quite a lot of resentment in this community over the lack of promotional opportunities. As one interviewee said, "Helo pilots are lucky to make Commander; and probably have a relative that's an Admiral or a congressman if they make Captain." Because of this lack of opportunity, the majority of the interviewees were not planning on making the Navy part of their long term career.

Another area of complaint was the discrimination that most of the interviewees felt was directed toward the helo community. The forms that this took included being called

"Naval aviation draftees" or "almost aviators." The feeling of discrimination was heightened for several of the pilots when, in a number of cases, at the end of the recovery cycle aboard a carrier, the ship was brought about before the helos (which were standing by for rescue operations) could get back on board.

One other attitude predominated within the helicopter community. This was the life saving nature of their mission. Even when involved in active submarine hunting, the pilots expressed the notion that they were "in the life saving rather than life taking business."

C. DUTY STATION

"Where you stand depends on where you sit." As Graham Allison makes the point in his book, Essence of Decision, the above aphorism has both a horizontal and a vertical component [Allison 1971]. In this thesis, the vertical component has been largely described by the perceptions and attitudes related to the type of aircraft that the aviator was assigned. The horizontal component has been assigned to the duty location and the perceptions related to that.

That there is a West Coast and an East Coast Navy is an often ignored but ubiquitous fact of life. On national television recently a Navy wife said that her "husband was in the East Coast Navy." When questioned by the Master of Ceremonies who had never heard of such a thing, she re-emphasized, "There sure is an East Coast Navy and a West Coast

Navy. The East Coast Navy, of course, is the best"! [MATCHGAME 1977]

Many of the aviators commented on the differences between West Coast duty and East Coast duty. Those aviators with most of their experience on the East Coast expressed the belief that: "the Pacific squadrons get away with a lot more and are less disciplined." Other comments included: "Now that the war is over the West Coast will become more like the East Coast." This last idea was substantiated by at least one aviator with experience on both coasts who said: "During the war the idea was to get the job done. Once the war was over, there was a sharp change to a 'more rules and regs' orientation. This was with the same leadership in the squadron." In general, East Coast aviators were either oblivious to any differences or didn't find that the differences were significant.

The report from the West Coast side of the house and from those aviators with experience on both coasts paints a vastly different picture. Comments ranged from one made by the outspoken fighter pilot who said: "East Coast aviators don't know what flying is about. They're like a bunch of pansy-ass Air Force types." More moderate comments included: "Miramar (West Coast) is a fighter pilot's idea of Valhalla," and "The Pacific squadrons are much more goal oriented. People are given the opportunities to develop themselves. Morale was higher. The closer you get to Washington and the

number of flag officers per square foot goes up, the more regulations-oriented people become."

The consensus of the West Coast aviators was that there are problems because of the split in the Navy along geographic lines. The thought expressed by one pilot was: "If you are on the East Coast you have more of an opportunity for exposure to people who can help your career."

All of the aviators interviewed with service on both coasts preferred West Coast assignments.

III. VALIDATION

Validation of the perceptions and attitudes expressed by the interviewees is not easy. There have been some testing efforts done. The area of differences between East Coast and West Coast squadrons is politically sensitive. Whether there are measurable differences is not as important, however, as the fact that there are differences (real or illusionary) perceived by the aviators and those who work with aviators.

A. TEST

In 1970, John M. Roberts and James O. Wicke undertook a study to determine the differences in the field of naval aviation which might be illustrated by an expressive self-testing scale. For the purposes of their investigation, expressive self-testing was used in the sense that expressive travel is that employed for non-utilitarian and recreational uses. Skiing, hang-gliding, swimming are all forms of expressive travel. Expressive modes of travel or transportation have many features in common. All appear to involve a degree of physical skill on the part of the participant. In addition, many forms of travel have testing, contesting, and self-testing modes. Testing is usually used to determine who may participate in more expressive patterns, e.g., driver's license tests. Contesting, while expressive in nature, tends to pit participants against each other. Self-testing is a mode where a participant voluntarily tests his

competence at meeting the challenges of the environment. An example is the driver who passes a car at high speed when there is no real emergency or other requirement to do so. Another example is the person who works the New York Times crossword puzzle.

In the context of the study, self-testing of the physical nature in situations where there was a genuine risk was the only type considered. In order to relate all of this to naval aviation, a pilot scale was devised which ordered four naval aviation specialties into a scale based on degree of risk involved. This scale was: (1) fighter pilot, (2) attack pilot, (3) helicopter pilot, and (4) patrol pilot. The major hypothesis of the study was that this pilot scale was also associated with appropriate expressive self-testing attitudes with fighter pilots displaying the highest and patrol pilots displaying the lowest self-testing attitudes.

In an attempt to develop a survey instrument which framed questions about flying in a way equally meaningful for each specialty, it was decided that the automobile represented a common denominator since all of the respondents were drivers. Many, but not all of the questions dealt with driving or automobiles. The instrument was administered to 60 pilots who were members of a single class at the Command and Staff School of the Naval War College. The pilots were junior commanders or senior lieutenant commanders with 12 to 14 years service and were in their mid-30's.

While the research dealt only with statistical tendencies, and the findings went little beyond the wisdom of experienced pilots, the self-testing variable has more extensive and more subtle implications than were first apparent. The results confirmed the hypothesis. The four-class pilot scale was also a four-class self-testing scale. From the study it became evident that high self-testers would be more likely to be risk taking, while the low self-testers would be more likely to avoid risk situations. In flying situations, the results of the study indicated that the high self-testers would more likely stretch approved procedures if their self-testing was challenged, particularly if the small group norms were not congruent with the regulations. Low self-testers were opposite to the high self-testers in these variables [Roberts and Wicke 1971].

B. UNOBTRUSIVE MEASURES

An alternative method for validating the trends noted in the interview phase of this effort involved the use of unobtrusive measures. The idea behind the use of unobtrusive measures was to use one more independent process to test the proposition that there are demonstrable job-related differences within the naval aviation community. The variable chosen was that of the make of automobile that each interviewee owned. Webb, et al. made the point that "observation of any type of possession can be employed as an index if there is a relationship between ownership of the object and

a second variable. With these measures alone, validity is often tenuous" [Webb et al. 1966]. Since this variable was being used in conjunction with other variables, it had more validity. The assumption, of course, was that there would be some differences in the type of automobiles owned and that this ownership would relate to the tastes of the owner and not to the availability of given types of autos or to some other unobserved variable.

As might be expected, Porsche, Jaguar and M.G. were mentioned by fighter pilots most frequently. A brief survey of the parking lot behind the Air Development and Test Squadron 4 (a T&E fighter squadron) hangar also showed that there were a number of Corvettes in addition to the Porsches and Jaguars. There were also several campers with motorcycles slung across the back. The attack community seemed to favor Plymouths, Volvos and a classic antique Chrysler that one of the pilots was restoring. The patrol community favored station wagons--Ford and Chrysler --in addition to two Ford LTD's. The helicopter community drove VW buses and old Ford Mustangs.

IV. CONCLUSIONS/RECOMMENDATIONS

A. CONCLUSIONS

That there are differences in the job-related perceptions of naval aviators has been demonstrated. Based upon the investigation reported here the following is a summary of these differences and perceptions:

1. Fighter pilots and NFO's are more risk-taking than other members of the aviation community.
2. Fighter aviators are perceived by the other classes of aviators to be more likely to make command.
3. Fighter aviators perceive themselves to be better aviators and to know more about aviation than the other classes of aviators.
4. Fighter aviators are more likely to bend regulations than other classes of aviators.
5. Fighter aviators perceive no need for concern about the problems of other classes of aviators.
6. Fighter aviators are concerned about new weapons which may change the nature of airborne warfare to the detriment of the fighter mission.
7. Attack aviators perceive that the future of air warfare will expand the role and mission of the attack community.
8. Attack aviators expressed the opinion that fighter aviators have an inflated opinion of themselves.

9. Patrol aviators expressed the opinion that too much emphasis has been placed upon the fighter community.
10. Patrol aviators perceive that morale is low in most of their squadrons.
11. Helicopter aviators perceive themselves as being held in low esteem in the aviation community.
12. Helicopter aviators perceive their opportunities for advancement to be quite limited.
13. Helicopter aviators perceive their role to be more in the nature of life saving rather than life taking.
14. East Coast aviators do not perceive geographic differences within the aviation community other than in matters of procedure.
15. West Coast aviators perceive geographical differences within the aviation community. These differences include the degree of concern for goals as opposed to strict adherence to regulation.
16. Many members of the aviation community have family problems which they perceive to be related to the nature of their assignments.
17. Many non-fighter aviators perceive the need for a change in the method that aviators are trained, selected and retained.
18. The aviation community has a general dislike (and misunderstanding) of the civilian community within the Department of the Navy.

B. RECOMMENDATIONS

1. Current training and selection procedures within the Naval Air Training Command should be examined and possibly revised. It presently costs $228,600 for basic flight training, not including the costs of recruitment, training up to the point of flight training and pay or allowances. It costs an additional $150,000 for initial Replacement Air Group training [Carter 1977]. At this point, the Navy has invested $378,600 in the nugget aviator. In exchange, the Navy obtains approximately three years service. This represents a lot of money to be spent on someone whose selection to a particular aircraft type was based upon the fact "that it rained on Thursday before he could fly at Saufley Field" (home of Training Squadron 1) [Wright 1970]. Many people have called for changes in the training of naval aviators. A scheme common to several of the proposals was to lengthen the time between the beginning of primary flight training and the selection into a particular pipeline. The recommendation requires all students to proceed from the basic flight syllabus through the basic jet syllabus until the completion of carrier qualifications. Decisions could then be made as to which type of further training the novice aviator would receive. The bonus to the Navy would be a universally

assignable aviator along the lines of the Air Force training philosophy and a fulfillment of the recruiting pitch made to young men to sign up and fly their own jet [Wright 1970, Culbertson 1970, Speed and Kusewitt 1972]. Efforts such as those to identify commonality of operational functions [Doll 1973] and to introduce scientific measures into the selection and classification process for aviators [Lane and Ambler 1974] must be encouraged.

2. Active efforts must be made to enhance the self-image of the helicopter community if the goal of retaining experienced helicopter pilots is desired.

3. The differences between the various aviation communities and between the East Coast and West Coast Navy must be recognized and efforts made to compensate for the detrimental differences. In an era of shrinking resources and a new awareness of the changing family structure within the Navy, solutions to the problems of two Navies will not be as easy as shifting personnel from coast to coast. Perhaps an approach which follows the Australian regimental idea may be a more workable solution. Families, while still moving occasionally, would move with a group from the same squadron or air wing and would have a home base to form a community in.

4. People who deal with the naval aviation community must become aware of the perceptual differences within the community and make adjustments accordingly. In turn, aviators that move into positions of leadership such as program management must be made aware of their responsibility to take a more catholic viewpoint and to leave narrow geographic and aircraft related perceptions behind.

BIBLIOGRAPHY

1. Allison, Graham T., Essence of Decision, p. 176, Little, Brown and Co., 1971.

2. Burgess, John E., CDR, USN, "Survival of the Fittest in Naval Aviation," U.S. Naval Institute Proceedings, v. 97, p. 43-49, October 1971.

3. Carter, William L., LT, USN, An Example of Human Resource Accounting, Naval Postgraduate School, June 1977 (unpublished paper).

4. Culbertson, R. K., CDR, USN, "Reply to D. R. Wright Naval Air Training: A Challenge Needed," U. S. Naval Institute Proceedings, v. 96, p. 84, November 1970.

5. Naval Aerospace Medicine Research Laboratory, NAMRL-1194, Naval Flight Officer Functional Analysis. Final Report, by LCDR Richard E. Doll, USN, unclassified, 2 November 1973.

6. Ebbert, Jean A., "Pink Patent Pumps Among the Brown Shoes," U. S. Naval Institute Proceedings, v. 96, p. 83, December 1970.

7. Ebbert, Jean A., Welcome Aboard, U. S. Naval Institute, 1974.

8. Finneran, P. J., CAPT, USMC, "N.F.O.--No Longer U.F.O.," U. S. Naval Institute Proceedings, v. 100, p. 26-31, December 1974.

9. Glazer, Myron, The Research Adventure, pp. 4-7, 32-36, Random House, 1972.

10. Training Analysis and Evaluation Group, TAEG #18, An Assessment of U. S. Navy Tactical Training, by Eugene R. Hall and William A. Rizzo, unclassified, March 1975.

11. Karyen, James L., (private communication), December 1976.

12. Kerlinger, Fred N., Foundation of Behavioral Research, 2nd ed., p. 406, Holt, Reinhart and Winston, 1973.

13. Lane, Norman E. and Ambler, Rosalie, K., "Impact of Multivariate Analysis on the Aviation Selection and Classification Process," paper presented at the NATO meeting of the Advisory Group for Aerospace Research and Development meeting on Medical Requirements and Examination Procedures in Relation to the Tasks of Today's Aircrew: Comparison of Examination Techniques in Neurology, Psychiatry and Psychology with Special Emphasis on Objective Methods and Assessment Criteria, Pozzuoli (Naples), Italy, September 1974.

14. Matchgame 77 television program aired 15 March 1977 on CBS television network.

15. Naval Postgraduate School, 1977-1978 Catalog.

16. Ray, Thomas, "Naval Aviation: The Beginning," U. S. Naval Institute Proceedings, v. 97, p. 32-42, January 1971.

17. Ray, Thomas, "The First Three," U. S. Naval Institute Proceedings, v. 97, p. 34-43, July 1971.

18. Ray, Thomas, "Annapolis: The Navy's First Aerodrome," U. S. Naval Institute Proceedings, v. 97, p. 34-41, October 1971.

19. Roberts, John M. and Wicke, James O., CDR, USN, "Flying and Expressive Self-Testing," Naval War College Review, v. 23, p. 67-80, January 1971.

20. Roush, Edward, (private communication), May 1977.

21. Sheehy, Gail, Passages: Predictable Crises of Adult Life, Bantam ed., p. 198-216, Bantam Books, 1977.

22. Smith, Peter, LCDR, USN, "The NFO and Squadron Command," U. S. Naval Institute Proceedings, v. 96, p. 40-45, April 1970.

23. Speer, W. A. and Kusewitt, J. B., "Military Pilot Training, Time for Improvement," U. S. Naval Institute Proceedings, v. 98, p. 31-36, March 1972.

24. Stephenson, Neal A., (private communication), January 1977.

25. Toole, W. D., Jr., CAPT, USN, "Naval Aviators: The Old and the Bold," U. S. Naval Institute Proceedings, v. 96, p. 67-71, January 1970.

26. Webb, Eugene J. and others, Unobtrusive Measures: Nonreactive Research in the Social Sciences, p. 115-119, Rand-McNally, 1966.

27. Wood, P. K., MAJ, USAFR, "From Fighters to Airlift," Aerospace Safety, v. 32, p. 25-26, August 1976.

28. Wright, David, R., LT, USN, "Naval Air Training: A Change Is Needed," U. S. Naval Institute Proceedings, v. 96, p. 115-117, February 1970.

INITIAL DISTRIBUTION LIST

		No. Copies
1.	Defense Documentation Center Cameron Station Alexandria, Virginia 22314	2
2.	Library, Code 0142 Naval Postgraduate School Monterey, California 93940	2
3.	Department Chairman, Code 54Js Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
4.	Assoc. Professor C. B. Derr, Code 54Dr Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
5.	Asst. Professor R. A. McGonigal, CDR, USN Code 54Mb Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
6.	Professor J. W. Creighton, Code 54Cf Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
7.	Mrs. Mary D. Johnson Pacific Missile Test Center Code 1232 Point Mugu, California 93042	1

Thesis
J6238 Johnson
c.1 Job-related percep-
tions of Naval aviators.

171885